NASCIO 2006 Recognition Awards
Information Technology Services
EPMO and Portfolio Management

Executive Summary

Upon his appointment as North Carolina's State CIO in May 2002, George Bakolia realized significant problems existed in statewide IT governance. In July 2004 he was able to get legislation passed that made the State CIO responsible for the oversight of projects developed by state agencies. The legislation mandated the establishment of a team of project managers who would work for the State CIO and would work with individual agency projects. To focus on business needs, the project review process also included two analysts from the North Carolina Office of State Budget and Management. In addition, the State CIO purchased a portfolio management tool to complement the work of the project managers.

The statewide project management office was established in mid 2004 and now includes a director, six project managers and two quality assurance specialists. The office develops and enforces project management and lifecycle methods, establishes statewide documentation standards, performs project approvals, monitors projects and performs quality assurance. It also provides advisory services to agencies, including evaluations for troubled projects and training. One of its more unique responsibilities is that a project manager is assigned from the EPMO to each major state project to mentor and assist the departmental project manager.

A portfolio management software tool, supported by three business analysts, became operational for project portfolio management in August 2005. It currently has 250 users in 21 executive branch agencies. Sixty major projects totaling about $750 million are being managed at project, agency, and state levels. The tool provides a broad range of processes that follow project management principles, including an automated workflow for project approvals and monthly reviews, document management, project forms and templates, capabilities for determining investment priorities, and staffing resource constraints.

Project documentation required by the software tool has been modeled after industry recognized standards, such as PMI and IEEE.

As a result of these changes, budget overruns have decreased from around 7 percent to 5 percent, schedule slippages have improved from over 20 percent to less than 10 percent, and requirements delivered versus promised have leaped from missing 14 percent to providing almost all. Two large-budget, high-visibility, and politically sensitive projects have been reorganized and redirected in a positive and timely manner through the involvement and recommendations of the project management office and the coordinated attention of project, agency, and state executives.

A. Description of project, including length of time in operation

Upon his appointment as State CIO in May 2002, George Bakolia realized significant problems existed in statewide IT governance. In July 2004 he was able to get legislation passed that made the State CIO responsible for the: 1) review and approval of all major projects (defined as those costing over $500,000); 2) development of project management, quality assurance, and architecture review processes; and 3) approval of project managers and assignment of a project management advisor (PMA) to all major projects. The enabling legislation gave the State CIO authority to suspend projects that did not meet specific performance standards. The legislation also assigned additional project approval and performance review authority to the Office of State Budget and Management (OSBM) and the Office of State Controller in order to provide more fiscal oversight.

Since the project management office was established in late 2004 and the portfolio management software was implemented in August 2005, the following problems have been improved:

- Work efforts for project reporting were cumbersome and time consuming and information was not presented in a meaningful format.
  Improvements: Fill-in templates and forms have replaced paper-based project approvals and monthly status reports, and documentation is consistent, understood, useful, and secure at project, agency, and state levels. Formats of tool documentation and workflow methodology are based on industry-recognized standards for project management and system development life cycles.

- Governance rules, process flows, and signoff disciplines were inconsistently applied, misunderstood, and laxly enforced.
  Improvements: Manual (e-mail enabled) workflow has been automated with role-based access, review, and approval rights at the project, agency, and state levels. Other features include an audit trail of actions and comments, automatic notifications of actions required, and reporting of workflow status. Discipline is enforced at the three levels of workflow (project, agency, and state) and for all required approvals/signoffs.

- Decision-making was late and ineffectual.
  Improvements: Responsibility and accountability for decision-making is built into the automated workflow with mandatory reviews and signoffs. Requisite factual information is timely, well structured, and useful. Detailed project analyses and research by EPMO staff supplement tool reports to provide balanced and complete pictures of risks, potential problems, troubled situations, along with associated recommendations.

- Staffing resources for identifying problems and applying corrective actions were insufficient.
  Improvements: Risks are tracked and managed through the tool to assist in anticipating problems. PMAs closely follow assigned projects and offer advice and assistance to project teams, agency project management offices, and state reviewers.

- **Problem:** Comprehensive analyses and reporting were not available. **Improvements:** Tool generated reporting includes: 1) a dashboard showing the status of seven key monthly performance factors giving visual indications of progress, 2) a monthly status report for each project, and 3) agency and statewide portfolio level reports. The tool assists in many analyses (such as automatically calculating risk scores).

The formation of a statewide project management office and the implementation of the portfolio management software tool were designed to support better project management and improved processes, practices, and procedures at the project, agency, and state levels. A key success factor for these actions is that they focused on: 1) enabling effective management and improved performance at the project level, 2) supporting fully informed and timely reviews and approvals by IT and business executives at the agencies, and 3) facilitating the involvement of the state's budgeting and fiscal oversight organizations with the State CIO's project approval and monitoring process.

The project management office uses a five-phase project development methodology. The five phases are: 1) initiation, 2) planning and design, 3) execution and build, 4) implementation, and 5) closeout. Formal approvals are performed at three points in the development cycle. The approvals ensure: 1) all preceding work has been completed acceptably, and 2) the project is in position for completing the next phase(s) satisfactorily.

The quality assurance staff members evaluate monthly status reports; assess progress in seven categories including PMI's triple constraints of time, cost and performance) (overall, schedule, deliverables, funding availability, budget, scope, and milestones); and prepare recommendations. Ratings for the six specific categories are: green (no action required as variances are within acceptable tolerances or deviations), yellow (potential problems as variances are slightly beyond normal experienced tolerances or deviations), and red (serious problems with excessive variances or deviations from plans). Depending on ratings, actions range from none required, to e-mail notifications project managers, to formal written notifications to agency heads, with recommendations for corrective actions. Severe situations can lead to suspension of project approvals, resulting in the removal of funding.

All assigned project status ratings are based on quantitative calculations performed by the software tool and qualitative analyses completed by the quality assurance staff. The use of the software tool ensures that information, analyses, and processes are applied in a consistent, fair, and equal manner and status ratings are assigned with clearly defined and well-understood guidelines. For both project approvals and monthly monitoring, all projects and agencies are treated the same regarding information, processes, and evaluations; thereby, minimizing misunderstandings concerning criteria, findings, and recommendations.

Project closeout reviews are required on all projects to: 1) measure the planned performance of project versus actual accomplishments in terms of costs, deliverables, timeliness, and quality; 2) validate estimated costs and benefits – reassess business cases – by determining if the investment is performing as expected and if the management decisions necessary to achieve the benefits to the taxpayers or value to

the public (such as business process reengineering, head count reductions, etc.) have been made; 3) ascertain whether the continuation or modification of the project is necessary to meet business or financial objectives or operational or user requirements; 4) evaluate the agency's capability to operate and maintain the investment efficiently and effectively over its lifespan; and 5) identify effective management practices and document lessons learned.

Portfolio Management Software Tool

The project management tool was purchased in late 2004, and the project portfolio implementation effort started in early 2005. By the fall 2005, design, configuration, and training efforts were completed, and the tool was used to manage all projects. The implementation of the applications portfolio component of the tool began immediately following the project work, and it is on schedule to be completed the end of this summer. About 120 data elements are being entered for over 900 applications, and the first analyses of these will be completed in August 2006 so that management plans can be developed for them by early fall. Components of the investment portfolio management part of the tool were used this spring to manage the workflow for IT expansion budget requests for the current session of the General Assembly. Over 100 funding requests followed the technical and fiscal review and approval process managed by the tool.

A three-person portfolio management staff is responsible for: 1) researching and understanding underlying portfolio management business theories, disciplines, and concepts and developing approaches to implement them in state government; 2) providing business related advice and training to users; and 3) managing the operations of the software tool, including reconfiguring it as necessary. Tool users include IT and business executives, financial and budgeting staffs, business managers, and IT planning and management personnel at project, agency, and state levels of government.

B. Significance to the Improvement of the Operation of Government

Project approvals and monthly status reporting processes have been strengthened, streamlined, and simplified through the work of the project management office and the implementation of the portfolio management software tool. The governance process for project approval and monitoring has been easier for agencies to follow and understand; there is more consistency in the evaluations of project readiness to proceed to the next phase(s) and the grading of monthly performance; and the process is more valuable to project teams, agency IT and business personnel, and the statewide project management office. The tool and processes provide for: the use of common data; evaluations against specific, measurable, and agreed-upon criteria; analyses and reporting geared to the early identification of problems; and current and trending information useful for appropriate and timely decision making.

C. Benefits Realized by Service Recipients, Taxpayers, Agency or State

History has shown that projects have a much better chance for good outcomes if: 1) adequate business cases have been prepared; 2) all required prerequisites for moving to the next phase have been completed; and, 3) status reporting is appropriately focused, performed frequently, and consistently applied. The project management office and the software tool have contributed to these factors. The following improvements have been identified from post implementation assessments of close out status versus original

plans: 1) budget overruns have decreased from around 7 percent to 5 percent, 2) schedule slippages have improved from over 20 percent to less than 10 percent, and 3) requirements delivered versus promised have leaped from missing 14 percent to providing nearly all.

Project, agency, and state leadership actions for addressing challenges and resolving problems have become more proactive and decisive. Several politically sensitive, publicly visible, and large-budget projects experiencing extensive performance issues have been restructured and redirected before cancellation became the only option.

D. Realized Return on Investment, Short-term/Long-term Payback (Including Summary Calculations)

With a statewide portfolio of 60 projects totaling approximately $750 million implementation costs, a small improvement in schedule or budget variances equates to significant dollars. The combined costs for creating the statewide project management office and implementing the project part of the portfolio management tool were about $1 million. Combined annual operating expenses for the project management and portfolio management groups are around $3.5 million. A one-year payback, therefore, requires an annual dollar benefit (in schedule shrinkage, budget reduction, quality improvement, etc.) of $4.5 million or a little over one-half of one percent of the $750 million implementation costs. Given the improvements in schedule, budget, and requirements cited above, it appears that this financial objective is being achieved.